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CERTAIN PROBLEMS IN ABDOMINAL SURGERY— BASED ON ONE HUNDRED CÆLIOTOMIES DONE AT THE KENSINGTON HOSPITAL FOR WOMEN.

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I WISH to discuss certain of the very practical problems which confront the gynecologist in his daily work, and will use as a basis for the discussion the methods employed and the results obtained in one hundred consecutive cœliotomies done at the Kensington Hospital for Women. In April, 1891, I read a paper before this Society detailing the technique in abdominal surgery as employed in that Hospital. Further experience has served to confirm the value of most of the methods then in use; hence I shall refer to technique in this paper very briefly.

The essentials of success in abdominal surgery are:

1. Early operation.
2. Careful preparation of the patient; with especial reference to stimulating the emunctories and to securing asepsis of the abdominal wall.
3. An aseptic operating-room.
4. Aseptic hands and instruments for the surgeon.
5. As great rapidity in operating as is compatible with careful, thorough work.
6. Irrigation and drainage in septic cases.
7. Careful after-treatment, embracing especially the withholding of fluids for about forty-eight hours; early purgation, and at least three weeks' confinement to bed.

The principle of early operation at last has been established in ovarian cysts. It is equally applicable to cysts of the tubes, to ectopic gestation, to certain fibroid tumors, and to the graver forms of salpingitis. Delay is just as dangerous in these cases of cœliotomy



as in cases of ovariectomy. Delay in operating is the cause of most of the deaths and of most of the failures to cure in this class of cases. In ectopic pregnancy delay often means hemorrhage and death—perhaps before operation, or shortly after operation—from acute anæmia. Twice I have operated where the abdomen was so full of blood that it was distended as from ascites. In both these cases the hemorrhage had been so large that death resulted from acute anæmia. In the inflammatory cases, with collections of serum, blood, or pus in the tubes or ovaries, delay means progressive invalidism, with perhaps absolute prostration of the centres of life. It means repeated attacks of peritonitis, increasing adhesions, matting together of the pelvic and abdominal viscera, and even the degeneration of distant organs, especially the kidneys and lungs. In this class, especially, delay is bad. A cure is next to impossible without a radical operation; and delay renders this more difficult and dangerous, and less certain to restore the sufferer to health and strength. The neuralgic pains which often distress this class of women for months after the removal of the appendages are due almost always to adhesions, the result of repeated attacks of peritonitis, together with depraved blood and poor general nutrition, the result of long-continued invalidism. With reference to this class of cases (hydro-, hæmato-, and pyosalpinx, and abscess of the ovary), I have no doubt that if those who are inclined to decry pelvic surgery and to magnify its shortcomings would expend their energies in inducing these poor women to submit to early operation we would have fewer deaths from operation and far fewer cases of post-operation pelvic pain. In other words, most of the deaths and most of the relative failures from operation in these cases are clearly chargeable to those who advocate what they falsely call conservative treatment, and thus deprive their patients of the advantages of early operative treatment. These remarks do not apply to non-cystic inflammations of the uterine appendages, of which I shall speak later. Nor shall I discuss here the peculiarities of fibroid tumors which demand early operation. Of the other essentials to success I shall say nothing, except concerning drainage.

DRAINAGE.

There is a growing tendency among surgeons to restrict the use of drainage and to attribute certain dangers to its use. In the hands of careful men most excellent results are obtained practically without the employment of drainage. This is a fact which merits the closest

attention. The results obtained by Kelly, Mann, Baer, Dudley and others show conclusively that drainage is neither so necessary nor so valuable as has been believed. Nevertheless, I am not prepared to believe that it is not of great value in septic operations and in cases in which it is necessary to separate many vascular adhesions. I use drainage constantly in such cases, and my results have been most gratifying—certainly as good as those reported by other surgeons. That there is a definite risk of the accumulation and decomposition of serum in “septic” operations and in operations dealing with extensive vascular adhesions, giving rise to septic peritonitis and death, was proved by the work of our elders. To Keith especially do we owe a debt for emphasizing this fact and for proving that this risk can be lessened greatly by the use of the drainage-tube. Those who oppose drainage point to their results as proving that drainage is unnecessary, or practically so. I believe that the better results obtained at present without drainage, as compared with the results of ten years ago, is explained by five facts:

1. Surgeons do cleaner work; they are more aseptic than formerly.

2. They have better means for securing hæmostasis.

3. They do not use irritating chemical antiseptic solutions in the peritoneal cavity.

4. They deprive their patients of water for forty-eight hours after operation, thus producing systemic thirst, and bringing about the absorption of serum from the peritoneal cavity.

5. They purge early and freely on the first sign of peritoneal irritation.

These facts and alterations in practice undoubtedly render the employment of drainage far less imperative than it was ten years ago; but they do not, in my judgment, do away with its advantage in bad cases.

The opponents of drainage not only deny the beneficent nature of the drainage-tube, but they attribute to its use various harmful effects:

1. That it is an open door for the entrance of infection.

2. That it produces fecal fistula.

3. That it favors hernia.

I am inclined to admit the validity of the third objection without argument. It is also true that the tube may prove an open door for infection. The careful work of Robb and Ghiskey in Kelly's service at the Johns Hopkins Hospital proves that it is impossible to prevent

infection of the tube by mere cleanliness or by pure asepsis not maintained by the use of chemical antiseptics. In these observations nothing but cotton or gauze, sterilized by heat and held in an aseptic forceps, was passed down the tube. Yet infection of the tube was frequent. Robb concludes from these experiments that drainage is harmful because it favors post-operative infection. This conclusion is logically drawn only with reference to drainage as practised by him. His results have only a relative bearing upon the general question of drainage. It is probable that the open method of drainage as practised by the disciples of Tait will give an even larger percentage of cases of tube-infection than those reported by Robb; but so far as I know, no careful observations on this point have been made. By using sterile gauze wet in sublimate solution (1 : 2000) to fill the tube, which has previously been drained, by soaking up the fluids by means of pledgets of sterile cotton held in a forceps, I believe the tube can be kept aseptic. The continual presence of the wet bichloride of mercury gauze in the tube kills or inhibits the growth of any germs which may make an entrance. I have practised this method of managing the tube in nearly 150 cases, and have the utmost confidence in its efficacy in preventing infection through the tube. In addition to using the wet bichloride gauze as a capillary drain and as a disinfecting plug for the tube, I have not hesitated to pass cotton soaked in bichloride solution to the bottom of Douglas's pouch each time I dressed the tube (two or three times in twenty-four hours) as an additional means of preventing infection. From long experience I am able to maintain that this restricted application of bichloride solution is harmless, although I am as firmly persuaded as anyone that the extensive use of chemical solutions within the peritoneal cavity is harmful, and therefore bad surgery. By this method of managing the tube I believe it is possible to prevent infection along the *inside* of the tube. At times infection occurs along the *outside* of the tube, especially when it is in position longer than 36 hours. This is best prevented by using a *wet* bichloride gauze dressing over the wound and around the tube. But when the tube is in position several days I frankly admit that infection from the skin can take place along the outside of the tube in spite of all we can do. This, in my experience, has invariably been of mild character, without serious results.

Concerning the second objection to "glass drainage," that it produces fecal fistula, I believe that the Scotch verdict of "not proven" must be brought in. That a glass tube resting on the bowel for a long time, without rotation or elevation, might cause ulceration of the bowel

is true; but no one recommends such bad practice; and when the bowel has been seriously injured in separating adhesions, so that fecal fistula is to be feared, I feel decidedly safer with a tube in position to act as a danger signal and to provide a means of exit for fecal matter should a fistula form. That the probability of fecal fistula is slight in careful hands is indicated by the fact that I have had but two such cases.

I shall now give an analysis of the one hundred consecutive coeliotomies herewith reported.

These operations have been done for the following conditions:

Pregnancy in flat pelvis, c. v. 2½ in.	1
Ovarian cysts: Treble, 1; double, 2; single, 8; single malignant, 1 . . .	12
Ovarian cysts, complicated by: Salpingitis and pelvic adhesions, 4; hydro- and hæmato-salpinx, 2; double pyosalpinx, 1	7
Suppurating ovarian cysts, complicated by: Double salpingitis, 2; hydrosalpinx, 1; pyosalpinx, 2	5
Pyosalpinx: Double, 7; double, with abscess of both ovaries, 1; single, 3; single and abscess of ovary, 1	12
Fibro-cyst of uterus	1
Fibro-myoma of uterus	9
Extra-uterine pregnancy: Ruptured, 2; unruptured, 1	3
Double hydrosalpinx	3
Hydro- and hæmato-salpinx	1
Tubercular peritonitis with double pyosalpinx (tubercular)	1
Tubercular peritonitis with cancer of pelvis	2
Tubercular peritonitis	1
Pelvic abscess	1
Pelvic cellulitis	1
Malignant tumor of kidney	1
Peritoneal carcinoma	1
Hemorrhage into the pregnant bifid uterus	1
Cancer of colon	1
Ventral hernia (post-operative)	3
Inguinal hernia and femoral hernia, 1 each	2
Catarrhal appendicitis (recurrent)	1
Retroflexion of uterus, with adherent appendages	2
Retroflexion of uterus—left ovaritis	1
Chronic salpingitis and ovaritis: One side, 6; both sides, 2; both sides with broad ligament cyst, 1	9
Chronic salpingo-oöphoritis with extensive adhesions	10
Hæmatoma of right, cirrhosis of left ovary	1
Hypertrophic, cystic, and cirrhotic degeneration of ovaries—hysteria with periods¹	1
Arrested development of the sexual organs—cystic ovaries—chronic peritonitis	4
Menstrual insanity with fibroid tumor and left ovarian cyst	1
Endometritis fungosa (adenoma), salpingitis, cystic ovaries, uterine hemorrhage	1 — 100

¹ In this connection, it should be mentioned that in one case of ovarian cyst hysterio-epilepsy existed; also in one case of ovarian cyst with adherent appendages. In the three cases a cure has resulted.

In the following operations both uterine appendages were removed for—

Uterine fibro-myoma	5
Ovarian cyst	7
Ovarian cyst, complicated by suppuration in cyst, or pyo-, hydro-, or hæmato-salpinx or salpingitis	10
Chronic salpingo-oöphoritis, with extensive adhesions	10
Chronic salpingo-oöphoritis, with broad-ligament cyst	1
Pyosalpinx and ovarian abscess	11
Hydro- and hæmato-salpinx	4
Extra-uterine pregnancy	3
Arrested development of the sexual organs, with chronic ovaritis, salpingitis, and peritonitis	4
Hæmatoma and cirrhosis of ovaries	1
Retroflexion of uterus and adherent appendages	1
Endometritis fungosa, salpingitis, cystic ovaries, metrorrhagia	1
Chronic ovaritis and salpingitis, without adhesions	2
Small uterine fibroid and ovarian cyst—menstrual insanity	1
Hypertrophic, cystic, and cirrhotic degeneration of ovaries: Hysteria with periods	1
	62

One uterine appendage was removed for—

Ovarian cyst	4
Ovarian cyst, complicated by pyo- or hæmato-salpinx	2
Pyosalpinx	1
Pyosalpinx and abscess of ovary	1
Retroflexion of uterus—left ovaritis	1
Retroflexion of uterus, with adherent appendages	1
Chronic salpingo-oöphoritis	6
	16

Miscellaneous cœliotomies—

Hysterectomy for fibro-cyst, 1; for soft fibroid, 2	3
Exploratory incisions	9
Tubercular fluid evacuated	3
Cæsarean section	1
Appendix vermiformis removed	1
Herniotomy: Post-operative ventral hernia	3
Herniotomy: Inguinal, 1; femoral, 1	2
	22

Total—100

Cases 35, 37, 41, 43, 54, 73 died—6 per cent.

The diseases for which the abdominal sections were done must be divided into thirty-one groups. It would not be profitable, nor is it possible in the time at my disposal, to discuss each of these indications.

Happily, it is no longer necessary to discuss the necessity for early operation in labor complicated by deformity of the pelvis sufficient to prevent delivery *per vias naturales*, for ovarian and tubal cysts,

for certain fibroid tumors, for extra-uterine pregnancy, and for the well-marked cases of chronic salpingo-oöphoritis with adhesions. Those who are not convinced of the necessity and advantages of operation in these cases are either not familiar with the diseases in question or are so constituted as not to be convinced by evidence or argument. For such conditions there have been 65 operations.

CHRONIC SALPINGO-OÖPHORITIS WITHOUT ADHESIONS.

The cases in which the necessity for and advisability of operation is least certain are cases of chronic salpingitis and ovaritis, with trifling adhesions or none at all, and in which the principal symptom is pain, local and reflex, with various neuroses and disturbances of digestion and nutrition as complications. In this class of cases there have been 8 operations; in 6 cases one uterine appendage was removed, in 2 cases both were removed. If to these we add an operation for hæmatoma of the right ovary and cirrhosis of left, and a case of double salpingo-oöphoritis, with a small, broad ligament cyst; and also a case of hypertrophic cystic and cirrhotic degeneration of the ovaries, with marked hysterical catalepsy at the menstrual periods, we have 11 operations, in 5 of which both uterine appendages were removed. Indeed, in 6 cases both were removed, because one case was operated on twice. All of these patients recovered from the operation, and, speaking in general terms, they have been much benefited or entirely cured. One patient (Case 32-63), with cystic ovaries, salpingitis, and metrorrhagia, was not benefited by removing the worst appendage, but was entirely cured when the second one was removed. Case 42, with hypertrophic, cystic, and cirrhotic degeneration of the ovaries, and having hysterical cataleptic attacks at her periods, was entirely cured. In every case the results obtained justified the operation, and in most of them the results were entirely satisfactory.

In my judgment, the indication for operation in this class of cases is difficult to define, and too much caution cannot be maintained in advising operation. The cases reported were operated upon only after the failure of long-continued non-operative treatment. I believe that operation is not justifiable in such cases, no matter how great the suffering, unless the patient first submits to well-directed, long-continued treatment. If this fails to cure, and the patient's health is destroyed, her life made miserable, and she herself perhaps pauperized by her condition, operation is indicated.

Under such conditions operation and the removal of the offending member is a great boon to these sufferers. With careful after-treatment, tending to improve nutrition, many otherwise hopeless sufferers in this way can be cured. These patients were selected for operation from a large number, and many of them had been under treatment from one to three years without material improvement.

ARRESTED DEVELOPMENT OF THE SEXUAL ORGANS.

In four cases of arrested development of the sexual organs, with cystic ovaries and some chronic peritonitis, both uterine appendages were removed. All that was said concerning caution in advising operation in the previous class of cases is even more applicable to this class. Each of these women was single, had had delayed puberty, with abnormal menstruation, with marked anæmia and various neuralgias; and each had been under treatment for a long time without avail. Life was a burden to both. The results have been all that could be desired in three, and the fourth expresses herself as happy at being relieved of her menstrual pains, in the pelvis, mammary glands, and head. She is still very anæmic, but supports herself as a dressmaker. One is now a successful trained nurse, another a saleswoman, and the last one is doing general housework as a servant.

POST-OPERATIVE VENTRAL HERNIA.

There have been three operations for post-operative ventral hernia—two in cases previously operated on by myself. These are the only herniotomies I have done on my own cases, although not the only hernias which have occurred in my practice. In each of these cases the primary section was for pus in the pelvis in women much broken in health, and in each suppuration followed the operation, preventing primary union of the abdominal wall. All three were poor women, who were obliged to do heavy work shortly after their operations were done.

I believe that the causes of post-operative ventral hernia are:

1. Extreme malnutrition of the patient when operated upon.
2. Failure to approximate the divided transverse aponeurosis.
3. Suppuration of the abdominal wound.
4. Drainage.
5. Early rising from bed.
6. Too early return to work.
7. Failure to wear a bandage (?).

A certain low percentage of hernias is unavoidable, but a practice based upon a recognition of the preceding facts will greatly restrict their number.

The first case herewith reported was operated upon by dissecting out the sac, freeing the intra-peritoneal adhesions, and then by passing sutures in the usual way through each lip of the wound. Before these were tied the divided aponeurosis was united by a running catgut suture. The other two were sutured differently. After the sac was carefully dissected out, so that the three layers of the abdominal wall—skin, aponeurosis and muscle, and peritoneum—were distinctly free and visible, silkworm-gut sutures were passed, beginning at the aponeurosis and passing through it and the rectus muscle and peritoneum upon one side, and in the reverse way upon the opposite side of the incision. These were tied and cut off close to the knots, to become permanent buried stays or supports to the wound. The skin was then united by superficial sutures. This method of suturing in hernia is original with myself, but the principle, I believe, is to be credited to Edebohls, who devised the method for his ordinary coeliotomy wounds. The three cases have done well.

RADICAL CURE OF INGUINAL AND FEMORAL HERNIA.

There was one operation for the radical cure of inguinal hernia and one for femoral hernia. In the case of the inguinal hernia, the lower end of the sac had shut itself off from the upper portion, and in this way a cystic tumor had formed as large as a hen's egg. This was removed, and the sac was pulled down, ligated, and returned to the peritoneal cavity. The pillars of the ring were whipped together with a continuous silkworm suture, which was left as a permanent support.

The femoral hernia contained adherent omentum. The operation was done as in the first case. A cure has resulted in both cases. I wish to call attention to the use of the *continued silkworm buried* suture, or a number of interrupted buried sutures, for closing the peritoneal cavity and the pillars of the ring, in operating for hernia. I believe the method will be of service in preventing a return of the hernia.

I was somewhat doubtful about including inguinal and femoral herniotomies among abdominal sections. Anatomically the classification is correct, but custom is rather against it. But whether these herniotomies be included or rejected in this report is of little impor-

tance from the standpoint of results, as eight operations done since the date of this report could be added, making 108 in all, with but six deaths. Two of the deaths were cases of incomplete ovariectomy, one of which was for a malignant growth.

I shall pass over the three operations for retroflexion of the uterus, with ovaritis and with adherent uterine appendages, also the one operation for recurrent catarrhal appendicitis, and the three operations to evacuate fluid in tubercular cases, and take up the exploratory sections.

EXPLORATORY CELIOTOMIES.

There were nine exploratory sections. One was made in the groin for a supposed abscess following removal of the uterine appendages for fibroid of the womb. A cellulitis of the right broad ligament (infected pedicle¹) was found. The pelvic peritoneum was inflamed, but the swelling was in the broad ligament.

The second case was an operation for fibroid. The bladder was anomalous, having the peritoneum reflected upon it just below the umbilicus. As this prevented the extra-peritoneal treatment of the pedicle, the operation was abandoned. The third patient was a case of true pelvic abscess following labor; the section was done to determine whether pyosalpinx existed. The abscess was evacuated in the groin by a second incision. The fourth patient was supposed to be a case of pelvic suppuration (pyosalpinx or abscess of the ovary), but proved to be cancer of the colon. The fifth case was operated upon as an ovarian tumor. The tumor was intra-ligamentous; filled the pelvis; was covered with the platysma layer of the broad ligament; looked like a pregnant uterus, and as no landmarks could be made out, owing to a recent peritonitis, the suspicion of pregnancy was entertained, and unfortunately the operation was abandoned. The woman died. The seventh case was an operation for fibroid. The woman collapsed when the abdomen was opened, so the operation was abandoned. The eighth case was thought to have a ruptured extra-uterine pregnancy. It proved to be a hemorrhage into one horn of a pregnant bifid uterus. The sixth and ninth cases were diagnosed as cancer, but at the request of the patient the abdomen was opened in the hope of finding the diagnosis a mistake.

¹ Having had a number of infected pedicles, and having seen no hæmatomas following abdominal sections, it has occurred to me that Tait's post-operative hæmatomas are really infected pedicles.

I am thoroughly convinced of the importance and the propriety of opening the abdomen in certain cases to complete the diagnosis, but I have never yet been obliged to open the abdomen without a very definite knowledge of the physical conditions present. The exploration was to assist in interpreting the physical conditions. I am entirely out of sympathy with the theory that it is necessary to open the abdomen to find out whether a woman has pelvic or abdominal disease. Such a proposition is a confession of too great ignorance of the subject of diagnosis.

I will simply remark, in conclusion, that it is difficult to separate strictly exploratory cœliotomies from abandoned operations in making classification.

CYSTIC DEGENERATION OF THE OVARIES AS A CAUSE OF METRORRHAGIA.

In four cases the relation between cystic ovaries and metrorrhagia was striking. In two of the cases there is no doubt that it was the only cause of the uterine hemorrhage. Of the doubtful cases, No. 4, aged forty, had been an invalid for fifteen years, with pelvic disease originating in childbirth. Prior to her operation she had been bleeding almost constantly for three years, during two years of which time she was confined to bed. The ovaries were cystic, but in addition, chronic salpingitis, with adhesions, existed, so that it is only probable that the metrorrhagia was due to the ovarian disease. The hemorrhage ceased with the removal of the appendages. Case No. 64, age twenty-seven, primipara, is likewise a doubtful illustration of metrorrhagia from cystic disease of the ovaries. Mrs. S. came under my care for supposed miscarriage at the fifth week. Hemorrhage continuing, I curetted the uterus, and repeated the curetting without anæsthesia, some weeks later. This case was my first and last one in which I have attempted to curette the uterus without anæsthesia. It proved so painful to the patient and so unsatisfactory to myself that I shall not attempt it again. As Mrs. S. continued to bleed, I admitted her to the Kensington Hospital for Women, and curetted the womb thoroughly, removing a large quantity of material with the curette. After a few weeks, bleeding recurred and the patient became blanched. From the beginning it had been apparent that the left ovary was diseased, and this seemed to me to explain the recurring hemorrhages. I explained the situation fully to the husband and to the patient, recommended one more

curetting, and, that failing, the removal of the appendages. They both insisted upon the more radical operation, which, under the circumstances, I could not refuse.

The womb was again curetted and the appendages removed February 15, 1892. In April the bleeding recurred and continued. I entertained the diagnosis of malignant adenoma, but concluded to curette the uterus and pack it with gauze soaked in 50 per cent. chloride of zinc solution. This produced a slough of the inner layers of the uterus, about one-fourth of an inch in depth, and also cured the bleeding.

In the other two cases, 28 and 32-63 the relation of the cystic disease to the bleeding was unmistakable. Case 28, age twenty-three, primipara, had been bleeding two and one-half years, during which time she had been treated medically, also by electricity, and besides she had had the rest cure. The uterus was enlarged, as was the left ovary. Curetting stopped the bleeding for four months, when it recurred. The uterine appendages were removed April 23, 1891. Each ovary contained a small polycyst. There has been no recurrence of the bleeding. Case 32-63, age twenty-one, had had metrorrhagia for eight months, which was increasing in spite of judicious treatment on the part of her physician, Dr. G. G. Faught. Examination showed enlarged inflamed ovaries, especially the left one. The uterus was curetted, and the left ovary and tube removed. No improvement followed, and in spite of careful treatment the patient's condition ran down. Nine months after the first operation the other appendage was removed. The ovaries were both markedly cystic, and both tubes were the seat of catarrhal salpingitis. The patient has made a perfect recovery.

Six of the cœliotomies were followed by death. Case 35, age thirty, III-para, was a fat woman in fair condition. She had a suppurating intra-ligamentous cyst of the left ovary. The cyst had become inflamed during her last puerperium, some two months prior to her operation. The operation was extremely difficult, and lasted ninety minutes. The purulent contents of the cyst escaped during the operation. Free irrigation and glass-drainage were used. The patient went to bed somewhat shocked. She shortly developed hyperpyrexia, and died within twenty-four hours. I was at a loss to determine whether the fever was due to virulent sepsis or to nervous disturbance.

Case 37, age fifty-four, X-para, was *in extremis* when operated upon. She was enormously distended, and had had orthopnea and

paralysis of the bowels from pressure for days. A ruptured colloid cyst of the right ovary, and two cysts of the left ovary, were removed. Mrs. J. died in six hours, plainly from filling up of the portal vessels, due to the removal of the immense pressure caused by the tumors.

Case 4, age forty-eight, primipara, was prostrated and emaciated. A large malignant cyst of the left ovary was removed. The broad ligament was infiltrated with cancer. During the operation in making traction on the cyst, the entire upper border of the broad ligament tore away. Instantly the pelvis was flooded with blood which ran out of the abdomen in a great stream. I immediately ligated the ovarian artery by passing a needle and suture, by touch, through the outer end of the broad ligament, and tying it. This controlled the bleeding sufficiently to sponge the blood away. The uterine end of the broad ligament was then ligated, and a row of interlocking sutures passed through the broad ligament. This controlled the bleeding completely. It was not possible to remove all the cancerous material, which fact doubtless explains the patient's death from septic peritonitis on the seventh day. Irrigation and glass-drainage were used. In such a case I would use the Mikulicz drain now.

Case 43, primipara, age thirty, in fair condition, was operated on for hydro- and hæmatosalpinx. Quick operation, irrigation and drainage. Hemorrhage into the peritoneal cavity took place during the first twenty-four hours—not sufficient, however, I thought to necessitate reopening the abdomen. The patient died of septic peritonitis on the fourth day.

Case 54, age twenty-eight, primipara, was in poor condition. The case has been referred to under the head of exploratory sections. Death from peritonitis.

Case 73, age twenty-four, nullipara, bedridden and markedly emaciated. Was operated on for suppurating ovarian tumor and double pyosalpinx. She died from exhaustion. No autopsy was allowed, but she had no evidence of peritonitis, except vomiting.

Of the six deaths, four were due to delay. A reasonably early operation would have saved them. Of the other two, one might have been saved had the abdomen been reopened promptly and the blood washed out; the other was a desperate case and would probably have died even if the operation had not been abandoned.

Deaths in abdominal surgery are almost always due to delay in operating. The same is true of post-operation pain and invalidism. When the profession awakes to this fact the mortality in abdominal surgery

will be reduced to one or two per cent. for all cases, and the percentage of perfect cures by operation will be improved still more.

Appended is a list of the cœliotomies, which has been prepared by Dr. H. E. Applebach, assistant surgeon to the hospital.

CASE 1.—October 15, 1890. J. W., aged thirty years; single; thin and anæmic; fibroid tumor. Removal of uterine appendages; time twenty minutes; drainage, two days. Convalescence uncomplicated; temp. febrile; primary union. Recovered (hernia). Discharged December 20, 1890.

CASE 2.—October 15, 1890. Mrs. F., aged twenty-six years; married; fairly well nourished; small right ovarian tumor and large hydrosalpinx, left hæmatosalpinx and atrophied ovary. Adhesions very dense, left ovary could not be removed, unless torn from its bed, it was left; time forty minutes; drainage, seven days. Convalescence slow; temp. febrile; primary union. Recovered. Discharged November 20, 1890.

CASE 3.—October 18, 1890. Mrs. L., aged twenty-seven years; married; healthy appearance; right ovarian tumor, double pyosalpinx. Removal of both uterine appendages; time forty minutes; drainage, four days. Convalescence slow; temp. febrile; primary union. Recovered. Discharged November 15, 1890.

CASE 4.—November 5, 1890. Mrs. W., aged forty-two years; married; two pregnancies; one miscarriage; condition very poor; chronic invalidism, cirrhotic and adherent ovaries, chronic salpingitis, metrorrhagia. Uterus dilated and perforated. Abdominal section, with removal of cystic and cirrhotic ovaries; time forty-five minutes; drainage, five days. Convalescence slow; temp. febrile; primary union. Recovered. Discharged December 12, 1890.

CASE 5.—November 8, 1890. J. W., aged thirty years; single; anæmic cellulitis. Exploratory section over exudate; time twenty-five minutes; drainage, iodoform gauze. Convalescence slow; temp. febrile; primary union. Recovered. Discharged December 20, 1890.

CASE 6.—November 19, 1890. Mrs. A., aged twenty-four years; married; two pregnancies; neurasthenic; salpingitis with hypertrophic, cystic, and cirrhotic degeneration of the ovaries, with adhesions. Removal of both uterine appendages; time thirty minutes; drainage, two days. Convalescence unimpaired; temp. afebrile; primary union. Recovered. Discharged December 12, 1890.

CASE 7.—November 23, 1890. Miss C., aged twenty-three years; single; neurasthenic; dysmenorrhœa and constant pelvic pain, cirrhotic and cystic ovaries, chronic pelvic peritonitis, arrested sexual development. Removal of both uterine appendages; time twenty-five minutes; drainage, two days. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged December 19, 1892.

CASE 8.—December 10, 1890. Mrs. M., aged thirty years; married; condition fair; double pyosalpinx. Removal of uterine appendages; time sixty minutes; drainage four days. Had ether-bronchitis; temp. febrile; primary union. Recovered. Discharged January 10, 1891.

CASE 9.—December 19, 1890. Mrs. B., aged thirty-four years; married; two pregnancies; three miscarriages; condition bad; left ovarian cyst and

hæmatosalpinx. Removal of the left uterine appendage; time thirty minutes; drainage two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged January 25, 1891.

CASE 10.—January 10, 1891. Mrs. L., aged thirty-seven years; married; three pregnancies; condition very good; double salpingitis with adhesions, extra-uterine pregnancy on right side unruptured. Removal of both uterine appendages (diagnosis confirmed by Dr. Piersoll, of the University of Pennsylvania); time twenty-five minutes; drainage, thirty-two hours. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged February 10, 1891.

CASE 11.—January 17, 1891. Mrs. H., aged forty-one years; married; five pregnancies; debilitated; salpingitis, cystic ovaries, and chronic peritonitis. Removal of both uterine appendages; time twenty-five minutes; oozing hemorrhage began six hours after the operation and continued twelve hours; temp. afebrile; primary union. Recovered. Discharged March 20, 1891.

CASE 12.—January 17, 1891. Mrs. H., aged thirty-eight years; married; four pregnancies; condition good; fibroid tumor of uterus, left ovarian cyst, menstrual insanity. Removal of both uterine appendages; drainage, one day. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged February 18, 1891.

CASE 13.—January 22, 1891. Mrs. F., aged twenty-eight years; married; nullipara; condition good; chronic salpingitis and ovaritis, extensive peritonitis, universal adhesions. Removal of both uterine appendages (owing to extensive and dense adhesions the operation was not a clean one); time fifty-five minutes; drainage, two and a half days. Stitch-hole abscess during the second week; temp. afebrile. Recovered. Discharged February 27, 1891.

CASE 14.—January 28, 1891. Mrs. C., aged forty-one years; married; nullipara; condition very poor; tubercular peritonitis, cancer of liver, stomach, and duodenum. Abdominal section and evacuation of four gallons of fluid, it was the sixth section; apparently the tubercular nodules were undergoing cicatrization; time twenty-five minutes; drainage eighty hours. Continual vomiting resulting from cancer; temp. afebrile; primary union. Recovered. Death from exhaustion, caused by constant vomiting excited by cancer of stomach, occurred shortly afterward. Had been vomiting for two months.

CASE 15.—February 5, 1891. Mrs. M., aged twenty-six years; married; nullipara; condition good; pyosalpinx on right side, salpingitis on left side. Removal of both uterine appendages, the abscess had perforated the muscular coat of colon, was curetted and sutured; time forty minutes; drainage, two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged February 25, 1891.

CASE 16.—March 11, 1891. Mrs. P., aged thirty-three years; married; one pregnancy; one miscarriage; condition fair; ovarian tumor on right side; salpingitis on left side. Removal of both uterine appendages; time thirty minutes; drainage, two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged April 8, 1891.

CASE 17.—March 11, 1891. Mrs. H., aged thirty-three years; married; one pregnancy; condition good; retroflexion, salpingitis on both sides, uterus

adherent. Removal of both uterine appendages, ligature placed under round ligaments; time twenty-five minutes; drainage, five days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged April 16, 1891.

CASE 18.—March 16, 1891. Mrs. H., aged thirty-eight years; married; two pregnancies; one miscarriage; condition fair; double hydrosalpingitis. Removal of both uterine appendages; time thirty minutes; drainage, four days. Convalescence uninterrupted; temp. afebrile; primary union. Recovery. Discharged April 14, 1891.

CASE 19.—March 16, 1891. Mrs. A., aged thirty-six years; married; three pregnancies; two miscarriages; condition good; double hydrosalpinx. Removal of both uterine appendages, very dense adhesions, collapse from chloroform; time fifty minutes; drainage, two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged April 14, 1891.

CASE 20.—March 23, 1891. Miss T., aged seventeen years; condition good; fibroid of uterus. Exploratory section, bladder anomalous, extending to within one inch of umbilicus; time thirty minutes, drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged April 27, 1891.

CASE 21.—March 23, 1891. Miss S., aged thirty-four years; single; condition worn; rudimentary appendages, neurasthenia, cystic ovaries. Removal of both uterine appendages; time thirty minutes; drainage, two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged May 3, 1891.

CASE 22.—March 26, 1891. Mrs. McG., aged forty years; married; three pregnancies; condition worn; tubercular peritonitis and cancer of appendages. Abdominal section and evacuation of fluid; time twenty minutes; drainage, six days. Convalescence uninterrupted; temp. 100.5°, slightly febrile; primary union. Recovered. Discharged March 21, 1890.

CASE 23.—April 2, 1891. Mrs. H., aged thirty-four years; married; three pregnancies; condition very poor; retroflexion, large tender left ovary. Removal of left uterine appendage, ligature under round ligament; time thirty minutes; drainage, one day. Bronchitis; temp. afebrile; primary union. Recovered. Discharged May 10, 1891.

CASE 24.—April 10, 1891. Miss McC., aged twenty-four years; single; condition fair; salpingitis on left side. Removal of left uterine appendage; time twenty minutes; drainage, one day. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged May 2, 1891.

CASE 25.—April 12, 1891. Mrs. P., aged twenty-four years; married; two pregnancies; condition bad; true pelvic abscess. Exploratory section; time fifteen minutes; drainage, none. Pelvic abscess evacuated on twelfth day; temp. febrile; primary union. Recovered. Discharged May 2, 1891.

CASE 26.—April 16, 1891. Mrs. B., aged twenty-five years; married; nullipara; condition very good; double salpingitis with dense adhesions. Removal of both uterine appendages, some of left ovary was not removed; time thirty minutes; drainage, three days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged May 14, 1891.

CASE 27.—April 23, 1891. Mrs. R., aged thirty-four years; married; two

pregnancies; condition good; post-operative ventral hernia. Cicatrix dissected out, aponeurosis sutured with continuous catgut sutures; time one hour; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged May 29, 1891.

CASE 28.—April 22, 1891. B. B., aged twenty-three years; single; one pregnancy; very anæmic; double ovarian cystoma (small), long-continued metrorrhagia. Removal of both uterine appendages; time twenty-five minutes; drainage, one day. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged May 19, 1891.

CASE 29.—April 27, 1891. Mrs. C., aged thirty-five years; married; nullipara; condition very bad; double ovarian, thin-walled cystomata. Removal of both cysts and tubes; time forty minutes; drainage, one day. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged May 25, 1891.

CASE 30.—May 11, 1891. Mrs. H., aged thirty-four years; married; nine pregnancies; two miscarriages; condition poor; suppurating left ovarian cyst, double salpingitis, universal adhesions. Incomplete removal of both appendages, thorough irrigation, pus had burrowed between vagina and rectum; time ninety minutes; drainage, seven days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged June 17, 1891.

CASE 31.—May 28, 1891. Mrs. B., aged forty-six years; married; two pregnancies; condition good; large cedematous myoma, larger than full-term pregnancy. Hysterectomy, broad ligament tied off, Kœberlé's nœud; time two and a half hours; drainage, twenty-four hours. Stump clipped off on tenth day; temp. afebrile; union primary. Recovered. Discharged July 15, 1891.

CASE 32.—May 28, 1891. Miss W., aged twenty-one years; single; condition fair; salpingitis and ovaritis on left side, metrorrhagia. Left uterine appendage removed; time twenty minutes; drainage two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged June 25, 1891.

CASE 33.—June 15, 1891. Mrs. W., aged forty years; married; three pregnancies; condition poor; double salpingitis, broad ligament cyst on right side, adherent appendages. Removal of both uterine appendages; time forty minutes; drainage, one day. Convalescence uninterrupted; temp. 101°, febrile; primary union. Recovered. Discharged July 12, 1891.

CASE 34.—June 18, 1891. L. C., aged twenty-three years; married; one pregnancy; condition fair; ovarian tumor on right side, salpingitis and ovaritis on left side. Removal of both uterine appendages; time twenty-five minutes; drainage, two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged July 14, 1891.

CASE 35.—June 25, 1891. Mrs. R., aged thirty-years; married; three pregnancies; had peritonitis; intra-ligamentous cyst (suppurating) of left ovary. Enucleation of cyst, removal of appendage, free irrigation; time ninety minutes. Died within twenty-four hours in hyperpyrexia; temp. febrile.

CASE 36.—June 29, 1891. Mrs. L., aged thirty-four years; married; one pregnancy; condition poor; adherent appendages, gumma beneath omentum

and Fallopian tube. Removal of both uterine appendages; time forty minutes; drainage, twenty-six days. Abdomen reopened on fifth day and flushed; temp. febrile. Recovered. Discharged July 12, 1891.

CASE 37.—July 2, 1891. Mrs. J., aged fifty-four years; married; seven pregnancies; three miscarriages; condition very bad, orthopnoea, paresis of bowels; immense right ovarian colloid cyst, two left ovarian cysts, uterine myoma as large as a foetal head. Removal of ovarian tumors; right tumor having burst, the colloid material was free in the peritoneal cavity; time forty minutes; drainage. Death in six hours from shock, pressure removed from portal vessels.

CASE 38.—July 25, 1891. Mrs. B., aged thirty-five years; married; two pregnancies; condition fair; right ovarian cyst, left tube and ovary inflamed and adherent. Removal of both uterine appendages; time forty minutes; drainage, two days. Abdomen reopened during third week, owing to an infection of the left pedicle; temp. febrile. Two sinuses. Recovered. Discharged August 15, 1891.

CASE 39.—July 27, 1891. Mrs. F., aged thirty years; married; nullipara; condition poor, bedridden for months; cancer of colon. Exploratory section; time twenty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged August 22, 1891.

CASE 40.—July 30, 1891. Miss R., aged thirty years; single; anæmia and neurasthenia; imperfect development of uterine appendages. Removal of uterine appendages; time thirty minutes. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged August 22, 1891.

CASE 41.—July 30, 1891. Mrs. R., aged forty-eight years; married; one pregnancy; condition very bad; large ovarian cyst with cancer in broad ligament. Removal of cyst and uterine appendage, very difficult enucleation, profuse hemorrhage; ligation of ovarian and uterine arteries; time one hour; drainage. Peritonitis set in on third day, died on seventh day; temp. febrile.

CASE 42.—August 3, 1891. Mrs. D., aged twenty-four years; married; one pregnancy; condition fair; chronic ovaritis, with hypertrophic, cystic, and cirrhotic degeneration, hysteria with periods; catalepsy. Removal of both uterine appendages; time twenty-five minutes; drainage, one day. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged August 27, 1891.

CASE 43.—August 8, 1891. Mrs. B., aged thirty years; married; one pregnancy; condition fair; hydrosalpinx on right side, hæmatosalpinx on left side. Removal of both uterine appendages; time thirty minutes; drainage. Hemorrhage after operation, died of septic peritonitis on fourth day; temp. febrile.

CASE 44.—August 27, 1891. Mrs. C., aged thirty years; married; one pregnancy; one miscarriage; condition poor; left ovarian suppurating cyst. Removal of left uterine appendage; time twenty-five minutes; drainage, three days. Infection of pedicle; temp. febrile; primary union. Recovered. Discharged September 21, 1891.

CASE 45.—September 3, 1891. Mrs. P., aged forty-two years; married; three pregnancies; condition poor; gonorrhœal salpingitis with extensive adhesions. Removal of both uterine appendages; time thirty-five minutes;

drainage, two days. Infection of pedicle; temp. febrile; suppurating wound. Recovered. Discharged October 15, 1891.

CASE 46.—September 4, 1891. Mrs. S., aged twenty-seven years; married; two pregnancies; anæmic; ovaritis on left side. Removal of left uterine appendage; time twenty-five minutes; drainage, two days. Stitch-hole abscess; temp. febrile; primary union. Recovered. Discharged October 4, 1891.

CASE 47.—September 5, 1891. Miss M., aged thirty-three years; single; condition fair; uterine fibroid with cysts of ovaries. Removal of both uterine appendages. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged October 3, 1891.

CASE 48.—September 7, 1891.—Miss W., aged nineteen years; single; anæmic; ovarian cyst on right side. Removal of right uterine appendage (left appendage removed by Dr. Kelly); time twenty-five minutes; drainage, two days. Cellulitis in abdominal wound; temp. febrile; wound suppurated. Recovered. Discharged October 14, 1891.

CASE 49.—September 21, 1891. Mrs. A., aged twenty-two years; married; one pregnancy; one miscarriage; very sick; temp. 104, pulse 140; pyosalpinx and abscess on the left side. Removal of left uterine appendages; time thirty-five minutes; drainage, two days. Abscess of peritoneum, high up; temp. febrile; wound suppurated. Recovered. Discharged October 28, 1892.

CASE 50.—September 28, 1891. Miss M., aged twenty-four years; single; condition poor; chronic ovaritis, arrested development, one ovary adherent. Removal of both uterine appendages; time twenty-five minutes; drainage, thirty-four hours. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged November 5, 1891.

CASE 51.—October 4, 1891. Miss H., aged twenty-four years; single; condition good; intra-ligamentous ovarian cyst, with extensive adhesions on left side. Cyst enucleated and both uterine appendages removed; time seventy minutes; drainage, twenty-four hours. Convalescence uninterrupted; temp. febrile; primary union. Recovered. Discharged November 11, 1891.

CASE 52.—October 8, 1891. Mrs. H., aged thirty-five years; married; two pregnancies; condition bad; ruptured tubal pregnancy on left side, right tube adherent. Both uterine appendages removed; time forty-five minutes; drainage, one and a half days. Convalescence uninterrupted; temp. febrile; primary union. Recovered. Discharged November 6, 1891.

CASE 53.—October 19, 1891. Mrs. K., aged thirty-six years; married; nullipara; condition very bad, chronic bronchitis; fibro-cyst of uterus. Hysterectomy; time two hours; drainage, none. Stump clipped off on eleventh day; temp. afebrile; primary union except about pedicle. Recovered. Discharged December 4, 1891.

CASE 54.—October 22, 1891. Mrs. A., aged twenty-eight years; married; one pregnancy; condition poor; suppurating ovarian cyst, intra-ligamentous. Exploratory section, operation abandoned because the diagnosis of pregnancy was adopted; time thirty minutes; drainage. Peritonitis; temp. febrile. Died.

CASE 55.—November 5, 1891. Miss N., aged thirty years; single; condition fair; ovarian cyst on left side and uterine myoma. Removal of both uterine appendages; time thirty-five minutes; drainage, none. Convalescence

uninterrupted; temp. afebrile; primary union. Recovered. Discharged November 20, 1891.

CASE 56.—November 9, 1891. Mrs. B., aged twenty-two years; married; one pregnancy; one miscarriage; condition fair; pyosalpinx and intra-peritoneal abscess. Removal of both uterine appendages; time forty minutes; drainage, three days. Convalescence uninterrupted; temp. febrile; primary union. Recovered. Discharged December 7, 1891.

CASE 57.—December 3, 1891. Mrs. McG., married; nullipara; condition fair; uterine myoma. Removal of both uterine appendages; time thirty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged January 11, 1892.

CASE 58.—December 6, 1891. Mrs. A., aged thirty-two years; married; nullipara; condition fair; femoral hernia. Radical operation; time forty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged January 27, 1892.

CASE 59.—December 19, 1891. Mrs. H., aged forty years; married; nullipara; condition good; double pyosalpinx. Removal of both uterine appendages; time twenty-five minutes; drainage, one day. Good convalescence; temp. afebrile; primary union. Recovered. Discharged January 20, 1892.

CASE 60.—January 21, 1892. Mrs. S., aged forty-eight years; married; nullipara; condition poor; carcinoma peritonei. Exploratory abdominal section; time twenty-five minutes; drainage, none; temp. febrile; primary union. Recovered. Discharged February 2, 1892.

CASE 61.—January 29, 1892. Mrs. V., aged thirty years; married; three pregnancies; condition fair; hæmatoma of right ovary, the left cirrhotic. Removal of both uterine appendages; time thirty-five minutes; drainage, none. Suppression of urine; temp. febrile; primary union. Recovered. Discharged February 20, 1892.

CASE 62.—February 2, 1892. Mrs. H., aged twenty-six years; married; nullipara; condition poor; suppurating right intra-ligamentous ovarian cyst, left hydrosalpinx. Removal of both uterine appendages, ovarian cyst held one quart of pus; time one hour; drainage, nine days. Convalescence slow; temp. febrile. Recovered. Discharged March 10, 1892.

CASE 63.—February 4, 1892. Miss W., aged twenty-two years; single; condition fair; cystic right ovary, salpingitis, menorrhagia. Removal of right uterine appendage, left appendage previously removed for same trouble; time twenty minutes; drainage, none. Convalescence good; temp. afebrile; primary union. Recovered. Discharged February 24, 1892.

CASE 64.—February 15, 1892. Mrs. S., aged twenty-seven years; married; one pregnancy; condition poor; endometritis fungosa, cystic ovaries, uncontrollable hemorrhages. Curetting and removal of both uterine appendages; time forty minutes; drainage, one day. Convalescence good; temp. afebrile; primary union. Recovered. Discharged March 6, 1892.

CASE 65.—February 17, 1892.—Mrs. I., aged forty years; married; nullipara; anæmic; fibroma uteri. Exploratory abdominal section; time twenty-five minutes; drainage, none. Double lobar pneumonia; temp. febrile; primary union. Recovered. Discharged April 4, 1892.

CASE 66.—February 23, 1892. Mrs. A., aged thirty years; married;

nullipara; condition fair; left pyosalpinx, and suppurating intra-ligamentous ovarian cyst. Removal of left tube and cyst; time two and a half hours; drainage, three days. Convalescence uncomplicated; temp. febrile; primary union. Recovered. Discharged March 6, 1892.

CASE 67.—February 25, 1892. Mrs. G., aged thirty-five years; married; five pregnancies; six miscarriages; condition poor; double pyosalpinx. Removal of both uterine appendages; time fifty minutes; drainage, three days. Convalescence slow; temp. febrile; suppurating wound. Recovered. Discharged March 25, 1892.

CASE 68.—March 7, 1892. Mrs. R., aged forty-two years; married; nullipara; condition poor; right ovarian cyst, containing one gallon of fluid. Removal of both uterine appendages; time forty minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; stitch-hole abscess. Recovered. Discharged April 7, 1892.

CASE 69.—April 4, 1892. Mrs. A., aged thirty years; married; nullipara; condition fair; right pyosalpinx. Removal of right tube; time one hour; drainage, two days. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged May 3, 1892.

CASE 70.—Miss G., aged twenty-one years; single; one pregnancy; condition good; double ovaritis, salpingitis, with extensive adhesions. Removal of both uterine appendages; time thirty-five minutes; drainage, two days. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged May 17, 1892.

CASE 71.—May 5, 1892. Mrs. T., aged twenty-two years; married; one pregnancy; condition good; right ovarian tumor, left cystic degenerate ovary and adherent tubes. Removal of tumor and both uterine appendages; time forty minutes; drainage, one day. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged June 2, 1892.

CASE 72.—May 16, 1892. Mrs. O., aged twenty years; married; two pregnancies; condition fair; right ovarian cyst, left degenerate ovary. Removal of the tumor and both uterine appendages; time thirty minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged June 12, 1892.

CASE 73.—May 19, 1892. Miss M., aged twenty-four years; single; condition very bad; suppurating ovarian tumor, double pyosalpinx. Removal of tumor and both uterine appendages; time one and a quarter hours; drainage. Patient died from exhaustion, no sign of peritonitis except vomiting; temp. afebrile.

CASE 74.—May 26, 1892. Mrs. T., aged twenty-nine years; married; nullipara; condition fair; ovaritis. Removal of left uterine appendage; time twenty-five minutes; drainage, none. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged June 26, 1892.

CASE 75.—June 16, 1892. Mrs. C., aged thirty-five years; married; five pregnancies; six miscarriages; condition poor; ventral hernia. Herniotomy; time thirty-five minutes; drainage, none. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged August 12, 1892.

CASE 76.—June 30, 1892. Mrs. C., aged thirty-two years; married; one miscarriage; anæmic; chronic salpingitis with marked adhesions, ovaritis. Removal of both uterine appendages; time forty minutes; drainage, none.

Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged August 18, 1892.

CASE 77.—June 20, 1892. Mrs. N., aged forty years; married; two pregnancies; condition poor; chronic ovaritis, salpingitis, dense adhesions, retroflexion. Removal of both uterine appendages, hysterorrhaphy; time forty-five minutes; drainage, two days. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged July 27, 1892.

CASE 78.—June 25, 1892. Mrs. T., aged twenty-six years; married; three pregnancies; condition fair; ruptured left tubal pregnancy. Removal of both uterine appendages; time thirty-five minutes; drainage; none. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged July 22, 1892.

CASE 79.—July 4, 1892. Miss W., aged thirty years; single; condition fair; retroflexion, chronic salpingitis, dense adhesions. Removal of left uterine appendages, hysterorrhaphy; time thirty-five minutes; drainage, one day. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged August 3, 1892.

CASE 80.—July 4, 1892. Mrs. B., aged forty years; married; four pregnancies; six miscarriages; condition poor; double hydrosalpinx, with small ovarian cyst. Removal of both uterine appendages; time forty minutes; drainage, five days. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged July 30, 1892.

CASE 81.—July 9, 1892. Mrs. B., aged forty years; married; four pregnancies; condition worn; large soft fibroid. Abdominal section, hysterectomy; time one and a quarter hours; drainage, none. Convalescence slow; temp. afebrile; primary union. Recovered. Discharged August 17, 1892.

CASE 82.—July 13, 1892. Miss S., aged twenty-five years; single; condition bad; tubercular peritonitis, large effusion. Abdominal section and evacuation of fluid; time thirty minutes; drainage, none. Convalescence slow; temp. febrile; primary union. Recovered. Discharged August 19, 1892.

CASE 83.—July 20, 1892. Mrs. L., aged fifty-two years; married; nullipara; condition fair; left femoral hernia, sacculatation of sac forming cyst. Herniotomy, removal of sac and cyst, radical operation; time one hour; drainage, none. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged August 6, 1892.

CASE 84.—July 24, 1892. Mrs. T., aged thirty years; married; three pregnancies; condition fair; chronic ovaritis and salpingitis, dense adhesions. Removal of both uterine appendages; time forty minutes; drainage, none. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged August 3, 1892.

CASE 85.—July 26, 1892. Miss H., aged eighteen years; single; condition good; catarrhal appendicitis. Abdominal section, vermiform appendix removed; time thirty-five minutes; drainage, none. Convalescence uncomplicated; temp. febrile first day; primary union. Recovered. Discharged August 23, 1892.

CASE 86.—August 1, 1892. Miss M., aged twenty years; single; condition fair; right ovarian cyst, double salpingitis with adhesions, hysterio-epilepsy. Removal of both uterine appendages; time thirty-five minutes; drainage, one

day. Convalescence uncomplicated; temp. afebrile; primary union. Recovered. Discharged September 30, 1892.

CASE 87.—September 7, 1892. Mrs. O., aged twenty years; married; one miscarriage; condition poor; large hemorrhage in left horn of bifid pregnant uterus. Exploratory section, hemorrhage supposed to be in peritoneal cavity; time thirty minutes; drainage none. Abortion followed operation; temp. febrile; primary union. Recovered. Discharged September 19, 1892.

CASE 88.—September 7, 1892. Miss T., aged nineteen years; single; condition worn, has been in bed seven weeks; double salpingitis, left ovarian cyst suppurating. Removal of both uterine appendages; time fifty minutes. Convalescence slow; temp. febrile; suppurated. Recovered. Discharged October 7, 1892.

CASE 89.—September 14, 1892. Mrs. D., aged forty-two years; married; eight pregnancies; three miscarriages; condition fair; tumor of right kidney, malignant. Exploratory section; time twenty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged October 4, 1892.

CASE 90.—September 28, 1892. Mrs. C., aged twenty-six years; married; nullipara; condition good; pregnancy, flat pelvis. Elective Cæsarean section; time one hour; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged October 26, 1892.

CASE 91.—October 3, 1892. Miss O., aged twenty-three years; single; condition poor; double pyosalpinx. Removal of both uterine appendages; time thirty-five minutes; drainage, three days. Wound sloughed; temp. febrile; suppurated. Recovered. Discharged November 30, 1892.

CASE 92.—October 6, 1892. Mrs. W., aged forty-two; married; four pregnancies; condition fair; tubercular peritonitis, double tubercular pyosalpinx. Removal of both uterine appendages; time forty minutes; drainage, one day. Convalescence slow; temp. febrile; suppurated. Recovered. Discharged November 5, 1892.

CASE 93.—October 10, 1892. Miss R., aged twenty-eight years; single; condition fair; double pyosalpinx. Removal of both uterine appendages; time thirty-five minutes; drainage, one day. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged November 22, 1892.

CASE 94.—October 21, 1892. Miss E., aged twenty-six years; single; condition fair; ventral hernia. Abdominal section, excision of ring, buried silkworm-gut sutures; time forty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged November 22, 1892.

CASE 95.—October 27, 1892. Mrs. B., aged thirty-three years; married; one pregnancy; condition fair; small fibroid, right ovarian cyst, left ovaritis. Removal of both uterine appendages; time thirty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged November 27, 1892.

CASE 96.—October 27, 1892. Mrs. H., aged twenty-four years; married; two pregnancies; condition fair; ventral hernia. Herniotomy; time forty minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged November 30, 1892.

CASE 97.—November 3, 1892. Mrs. DeM., aged twenty-eight years; mar-

ried; three pregnancies; condition worn; right ovaritis and salpingitis, reflex dyspepsia. Removal of right tube and ovary; time thirty-five minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged December 22, 1892.

CASE 98.—November 10, 1892. Mrs. G., aged forty-five years; married; three pregnancies; condition worn; chronic ovaritis and salpingitis, chronic invalidism. Removal of both uterine appendages; time thirty minutes; drainage, none. Convalescence uninterrupted; temp. afebrile; primary union. Recovered. Discharged December 7, 1892.

CASE 99.—November 10, 1892. Mrs. H., aged thirty-five years; married; nullipara; condition worn; double pyosalpinx. Removal of both uterine appendages; time forty-five minutes; drainage, one day. Suppuration of pelvis after first week; temp. febrile; primary union. Recovered. Discharged December 13, 1892.

CASE 100.—December 6, 1892. Miss Q., aged twenty-five years; single; condition good; double pyosalpinx, abscess of both ovaries, universal adhesions. Removal of both uterine appendages; drainage, seventeen days. Suppuration in pelvis; temp. febrile. Recovered. Discharged February 2, 1893.